Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

20. (currently amended) A method of thermally treating at least one layer for ~~actuating~~ activating foreign atoms passivated in the layer by hydrogen, said method including the steps of:

heating said at least one layer, in a first time interval of less than 120 seconds, above a first temperature at which a specific sheet resistance of said at least one layer decreases;

heating said at least one layer, in a second time interval which is within said first time interval and is less than 60 seconds, to above a decomposition temperature of said layer; and

producing charge carriers in said at least one layer during at least one third time interval, by electromagnetic radiation, wherein the energy of said electromagnetic radiation is greater than an energy gap of said at least one layer.

21. (original) A method according to claim 20, wherein said first temperature is between 300° C and 1200° C.

22. (original) A method according to claim 21, wherein said second temperature is between 600° and 1200° C.

23. (currently amended) A method according to claim 20, wherein thermal method steps are carried out beyond said first time interval at temperatures less than said first temperature.

24. (original) A method according to claim 20, wherein said third time interval is partially beyond said first time interval.

25. (currently amended) A method according to claim 20, wherein said third time interval is equal to said first time interval.

26. (original) A method according to claim 20, wherein said third time interval is beyond said first time interval.

27. (original) A method according to claim 20, wherein said third time interval encompasses said second time interval.

28. (original) A method according to claim 20, wherein said charge carriers are produced prior to said second time interval in terms of time.

29. (original) A method according to claim 20, wherein said charge carriers are produced prior to and during said second time interval in terms of time.

30. (original) A method according claim 20, wherein said charge carriers are produced during and after said second time interval.

31. (original) A method according to claim 20, wherein said charge carriers are produced after said second time interval.

32. (original) A method according to claim 20, wherein said charge carriers are produced only prior to and after said second time interval.

33. (original) A method according to claim 20, wherein said charge carriers are produced within said second time interval.

34. (currently amended) A method according to claim 20, wherein said at least one layer includes compound semiconductors of the group III-V.

35. (currently amended) A method according to claim 20, wherein said at least one layer includes compound semiconductors of the group II-VI.

36. (currently amended) A method according to claim 20, wherein said at least one layer includes compound semiconductors of the group III nitrides.

37. (cancelled)

38. (currently amended) A method according to claim 20, wherein said thermal treatment of a layer is effected within an RTP system.

39. (original) A method according to claim 20, wherein said second time interval is less than 30 seconds.